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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/799,177

03/12/2004

David Spencer Pearson

BBNT-P01-015

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28120

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09/04/2008

ROPES & GRAY LLP

PATENT DOCKETING 39/41

ONE INTERNATIONAL PLACE

BOSTON, MA 02110-2624

EXAMINER

SONG, HOSUK

ART UNIT

PAPER NUMBER

2135

MAIL DATE

DELIVERY MODE

09/04/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/799,177	<b>Applicant(s)</b> PEARSON ET AL.	
	<b>Examiner</b> HOSUK SONG	<b>Art Unit</b> 2135	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 and 12-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-5,12-26 are rejected under 35 U.S.C. 101 because the subject matter is directed to non-statutory subject matter.

Claims 1-5: The invention as claims does not pertain to a tangible product. For such claims to be statutory they must be embodied within a tangible computer medium such as hard drives or some other computer hardware form.

Claim 12-17,19,21-24: Claims does not produce a useful, concrete and tangible result. Determining link metrics associated with each of the quantum cryptographic links based on the respective number of secret key bits exchanged with the each of the neighboring nodes is not sufficient to satisfy the requirements of USC 101 requiring the a process produce a useful, concrete and tangible result. A useful, concrete and tangible result must be specifically recited in the claim. Further, the invention as claims does not pertain to a tangible product. For such claims to be statutory they must be embodied within a tangible computer medium such as hard drives or some other computer hardware form.

Claim 18: Determining link metrics associated with each of the quantum cryptographic links based on the respective number of secret key bits exchanged with the each of the neighboring nodes is not sufficient to satisfy the requirements of USC 101 requiring the a process produce a useful, concrete and tangible result. A useful, concrete and tangible result must be specifically recited in the claim.

Claim 20: Claim recites a system for determining link metrics of quantum cryptographic links connecting a node to neighboring nodes in a quantum cryptographic key distribution network. Claimed system must include a hardware necessary to realize any of the functionality of the claimed neighboring nodes and produce a useful, concrete and tangible result. Absent recitation of such hardware as part of the

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claimed system, it is considered non-statutory. A useful, concrete and tangible result must be specifically recited in the claim.

Claims 25-26: Claims does not produce a useful, concrete and tangible result. A useful, concrete and tangible result must be specifically recited in the claim.

***Response to Amendment***

The previous grounds of rejection based on the Phoenix and Cotter patents are withdrawn in view of Applicant's Amendment filed 6/18/08. However, examiner has discovered new issue during the examination. Please see new rejection above.

***USPTO Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOSUK SONG whose telephone number is 5712723857. The examiner can normally be reached on mon-fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, KIM VU can be reached on 5712723859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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/HOSUK SONG/

Primary Examiner, Art Unit 2135

<div><div>Application Number</div><div></div></div>	Application/Control No.	Applicant(s)/Patent under Reexamination	
	10/799,177	PEARSON ET AL.	
	Examiner	Art Unit	
	HOSUK SONG	2135	